MANUFACTURER'S LIMITED TWO YEAR WARRANTY

LEGACY SOUND CORP. warrants this unit to be free from defective material or workmanship and will repair or replace this unit or any part thereof if it proves defective in normal use or service within two (2) years from the date of original purchase.

Our obligation under this warranty is limited to repairing or replacing, at our discretion, the defective instrument or any part thereof when it is returned, transportation prepaid to the Legacy Service Center at the address below. This warranty will be considered void if the unit has been tampered with, improperly serviced, subjected to abuse or misuse or if installed in a commercial vehicle. This warranty does not cover accidental damage. When returning this unit for service, please include $15.00 for return postage and handling. Send your unit to:

IMPORTANT: Pack carefully in original carton if possible. We are not responsible for damage incurred in returning items for repair. A letter stating your exact street address, daytime phone number, and the problem you are experiencing should be included. You must also enclose a copy of the original receipt as proof of date of purchase.

LEGACY SERVICE CENTER
1600 63rd Street
Brooklyn, NY 11204

FOR YOUR PROTECTION

Completely and immediately mail the Product Registration Card so that we may contact you directly in the event a safety notification is issued in accordance with the 1972 Consumer Product Safety Act, or for other reasons Legacy may deem necessary.

TECHNICAL SUPPORT HOTLINE

Our technical department will gladly answer any questions you may have about our products. They cannot, however tell you the status of a repair, or handle other customer service situations.

1-800-934-2277

Monday through Thursday, 9AM to 5PM
Friday 9AM to 2PM Eastern.

LEGACY®
www.legacycaraudio.com





LEGACY®

SHARP STEEL

LA-499
LA-799
LA-1099
LA-1999
LA-2499
LA-3199
LA-4299

HIGH SPEED
CAR AMPLIFIER

USER'S MANUAL



Congratulations

on your purchase of a new

Legacy SHARP STEEL Series amplifier !

Legacy amps are some of the most advanced car amplification products available. These quality audio products are designed and engineered to afford you years of uncompromised musical service. Legacy has utilized the latest electronic technologies in order to deliver a superb listening experience.

This innovative system has been designed utilizing a 12 V DC Negative Ground power supply. The Legacy Sharp steel Series amps incorporate two to eight MOSFETS in the different models.

This design produces enough available voltage to supply the main amplifier sections, and still have a huge amount of reserve voltage for peak "high demand" situations.

The Legacy line has been designed to ensure adequate headroom for even the most demanding peaks and dynamic ranges found on today's CD's and recordings. Used properly, these amplifiers will provide you with years of listening pleasure.

USER MANUAL table of contents

Legacy Sharp Steel Amplifier Features

LA-499/799/1099/1999/3199/4299 also feature:

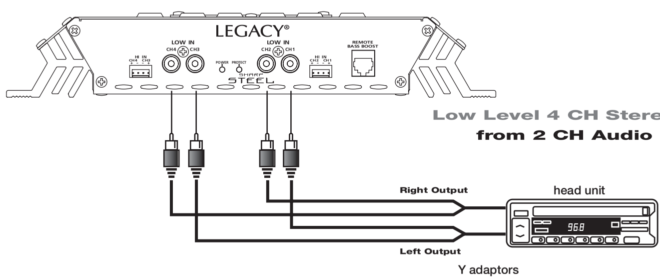
- Soft turn on/off circuit
- Variable gain control
- Remote turn on/off
- Hi/low level inputs
- Power on LED indicator
- LED protection indicator
- Blue light illumination
- Fully adjustable electronic crossover network
- Remote control Bass boost (0 - +18dB @ 60Hz)
- 2 ohm stereo stable
- Bridgeable into 4 ohms
- MOSFET PWM power supplies

Specifications

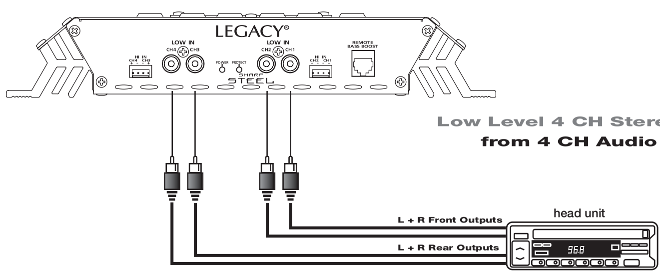
Specifications	LA-499 2CH amplifier	LA-799 2CH amplifier	LA-1099 4CH amplifier
OUTPUT POWER			
RMS @ 4 OHMS	2 X 40W	2 X 75W	4 X 75W
RMS @ 2 OHMS	2 X 60W	2 X 85W	4 X 85W
MAX OUTPUT	2 X 400W	2 X 550W	4 X 1100W
BRIDGE MODE	1 X 800W	1 X 1100W	2 X 1100W+2200W x1 or2X2200W
FREQUENCY RESPONSE	10Hz-30 kHz		
INPUT IMPEDANCE			
LOW LEVEL INPUTS	10 k-Ohms		
HIGH LEVEL INPUTS	100 Ohms		
INPUT SENSITIVITY			
LOW LEVEL INPUTS	250 mV		
HIGH LEVEL INPUTS	2.5V		
POWER SUPPLY VOLTAGE	14.4 VDC/NEG GD (10.5-16V)		
MATCHING SPEAKER IMPEDANCE			
STEREO MODE	2-4 OHMS	2-4 OHMS	2-4 OHMS
BRIDGED MODE	4-8 OHMS	4-8 OHMS	4-8 OHMS
MAXIMUM CURRENT DRAW	15 A	20 A	30 A
DIMENSIONS, W x H x L, inches (mm)	11.33 X 1.85 X 8.25 (288 X 47 X 209)	11.33 X 1.85 X 12 (288 X 47 X 305)	11.33 X 1.85 X 17 (288 X 47 X 432)
NET WEIGHT, LBS (KG)	5.29(2.4)	7.28(3.3)	10.23(4.6)

LA-1099
4CH AMPS

Low Level 4 CH Stereo Input from 2 CH Audio Source

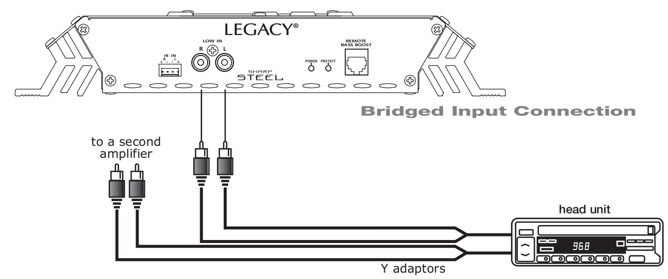


Low Level 4 CH Stereo Input from 4 CH Audio Source



LA-499 LA-799 LA-1999 LA-3199 LA-4299
2CH AMPS

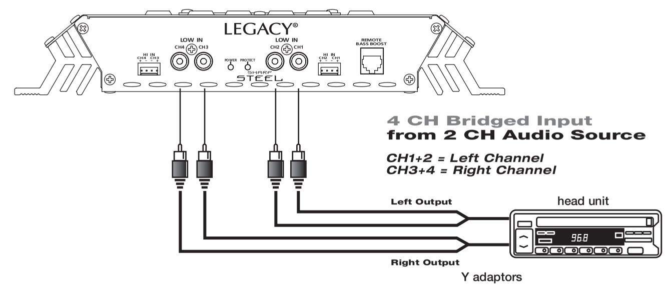
Bridged Input Connection



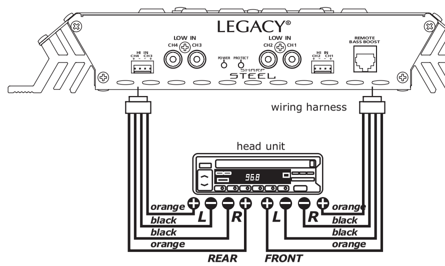
LA-1099
4CH AMPS

4 CH Bridged Input from 2 CH Audio Source

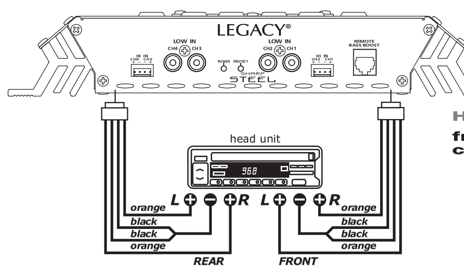
CH1+2 = Left Channel
CH3+4 = Right Channel



LA-1099
4CH AMPS



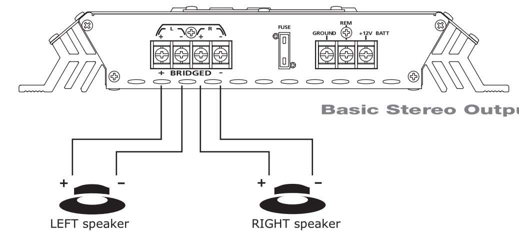
High Level 4 CH Stereo Input
from 4CH Audio Source floating ground connection



High Level 4 CH Stereo Input
from 4CH Audio Source common ground connection

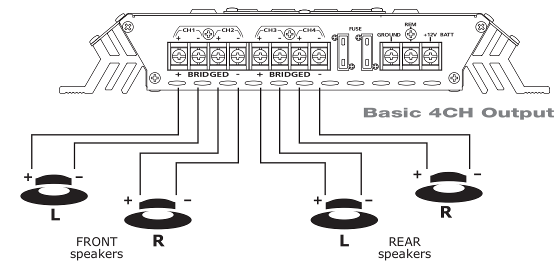
inputs
Input Connections

LA-499 LA-799 LA-1999 LA-3199 LA-4299
2CH AMPS



Basic Stereo Output

LA-1099
4CH AMPS

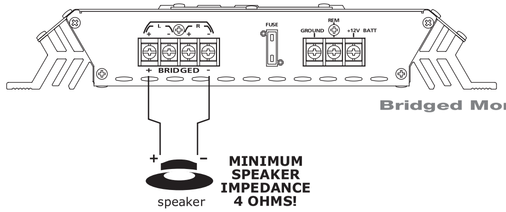


Basic 4CH Output

Speakers
Speaker Connections

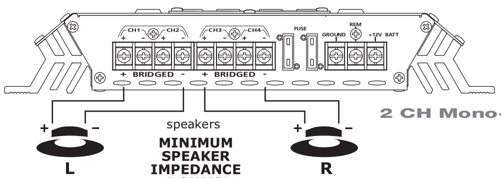
Speakers
Speaker Connections

LA-499
LA-799
LA-1999
LA-3199
LA-4299
2CH AMPS

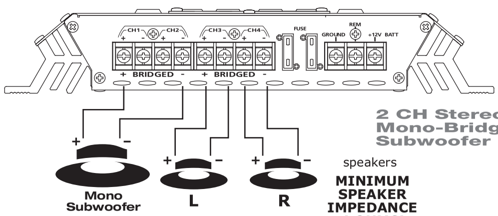


Bridged Mono Output

LA-1099
4CH AMPS



2 CH Mono-Bridged Output

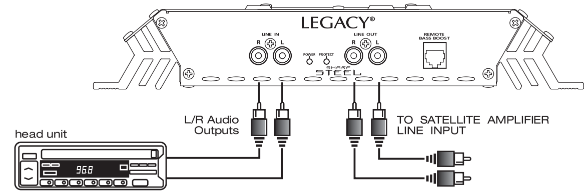


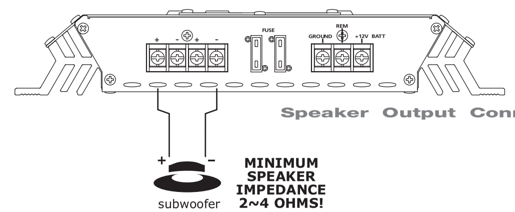
2 CH Stereo plus Mono-Bridged Subwoofer Output

inputs/Speaker
Input Connections/Speaker Connection

LA-2499
MONO CHANNEL AMPS

Low Level Stereo Input Connection





Speaker Output Connection

Amplifier will not power up.

• Check for good ground connection.
• Check that remote DC terminal has at least +12v DC.
• Check that there is battery power on the + terminal.
• Check all fuses.
• Check that Protection LED is not lit. If it is lit, shut off amplifier briefly and then repower it.

High hiss or engine noise (alternator whine) in speakers.

• Disconnect all RCA inputs to the amplifier(s) – if hiss/noise disappears, then plug in the component driving the amplifier and unplug its inputs. If hiss/noise disappears, go on until the faulty/noisy component is found.

• It is best to set the amplifier's input level as insensitive as possible. The best subjective S/N ratio is obtainable this way. Try to drive as high a signal level from the head unit as possible.

Protection LED comes on when the amplifier is powered up.

• Check for shorts on speaker leads.
• Check that the volume control on the head unit is turned down low.
• Remove speaker leads, and reset the amplifier. If the Protection LED still comes on, then the amplifier is faulty.

Amplifier(s) gets very hot.

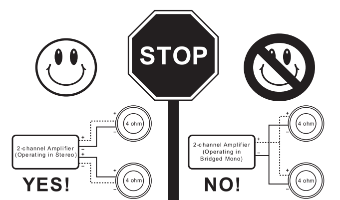
• Check that the minimum speaker impedance for that model is correct.
• Check for speaker shorts.
• Check that there is good airflow around the amplifier. In some applications, an external cooling fan may be required.

Distorted sound

• Check that the Level control(s) is set to match the signal level of the head unit.
• Check that all crossover frequencies are properly set.
• Check for shorts on the speaker leads.

High squeal noise from speakers.

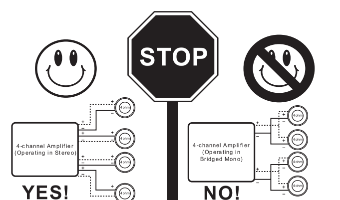
• This is almost always caused by a poorly-grounded RCA patch cord.



Two 4-ohm speakers, wired in stereo, will present a 4-ohm load to each channel of the amplifier. Most two-channel amplifiers will work well in this configuration.

Two 4-ohm speakers, wired in parallel to a bridged two-channel amplifier, will present a 2-ohm mono load to the amplifier. **MOST TWO-CHANNEL AMPLIFIERS DO NOT SUPPORT 2-OHM MONO OPERATION! AMPLIFIER DAMAGE COULD RESULT!**

Sound around, Inc.
1600 63rd street, brooklyn, ny 11204



Four 4-ohm speakers, wired in stereo, will present a 4-ohm load to each channel of the amplifier. Most four-channel amplifiers will work well in this configuration.

Four 4-ohm speakers, wired in parallel to a bridged four-channel amplifier, will present a 4-ohm mono load to the amplifier. **MOST FOUR-CHANNEL AMPLIFIERS DO NOT SUPPORT 2-OHM MONO OPERATION! AMPLIFIER DAMAGE COULD RESULT!**

Legacy Sharp Steel Amplifier Features

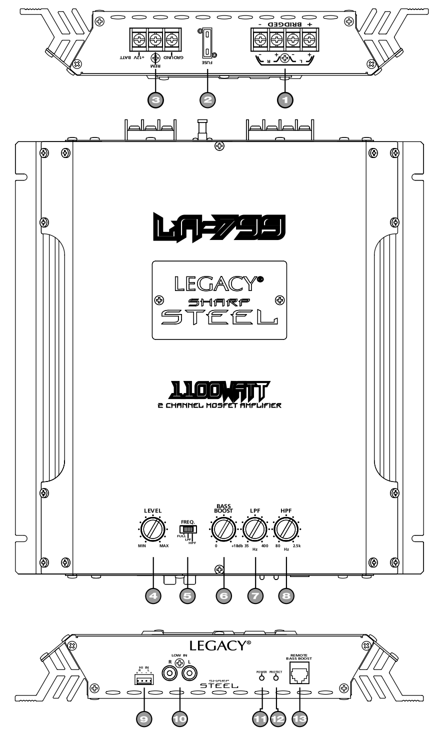
LA- 2499 also feature:

- Mono Block Subwoofer Amplifier
- 2 Ohm Stable
- MOSFET Power Supply
- Gold Plated RCA Inputs for Line Input & Bypass Output.
- Gold Plated Terminals for Speaker Output and Power Input.
- Thermal, Overload and Short Protection
- Variable Sub-sonic Filter (15Hz~40Hz, 24dB/Octave)
- Variable Low-pass Filter (20Hz~250Hz, 24dB/Octave)
- Blue light illumination
- Phase Control 0-180 degree
- Remote Bass Control
- Input Impedance : 10K Ohms
- Soft Turn On/Off
- Advanced Protection Circuitry
- S/N Ratio:>90dB

Specifications

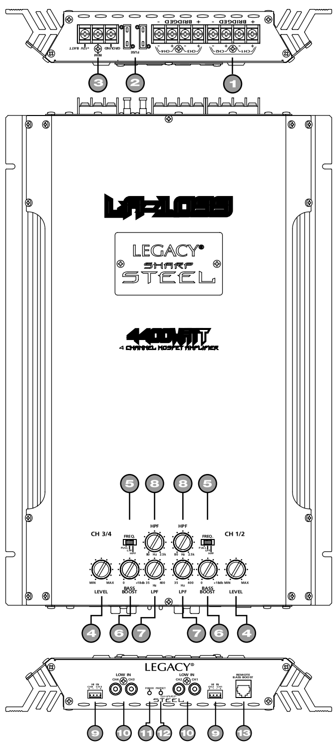
Specifications	LA-1999 2CH amplifier	LA-3199 2CH amplifier	LA-4299 2CH amplifier	LA-2499 Mono channel amplifier
OUTPUT POWER				
RMS @ 4 OHMS	2 X 125W	2 X 200W	2 X 300W	200W mono
RMS @ 2 OHMS	2 X 200W	2 X 300W	2 X 450W	335W mono
MAX OUTPUT	2 X 950W	2 X 1550W	2 X 2100W	2600W mono
BRIDGE MODE	1 X 1900W	1 X 3100W	1 X 4200W	
FREQUENCY RESPONSE	10Hz-30 kHz	—	—	20-250Hz(±3dB)
INPUT IMPEDANCE				
LOW LEVEL INPUTS	10 k-Ohms	—	—	10 k-Ohms
HIGH LEVEL INPUTS	100 Ohms	—	—	100 Ohms
INPUT SENSITIVITY				
LOW LEVEL INPUTS	250 mV	—	—	250 mV
HIGH LEVEL INPUTS	2.5V	—	—	4V
POWER SUPPLY VOLTAGE	14.4 VDC/NEG GD (10.5-16V)	—	—	14.4 VDC/NEG GD (10.5-16V)
MATCHING SPEAKER IMPEDANCE				
STEREO MODE	2-4 OHMS	2-4 OHMS	2-4 OHMS	2 OHM
BRIDGED MODE	4-8 OHMS	4-8 OHMS	4-8 OHMS	STABLE
MAXIMUM CURRENT DRAW	30 A	50 A	70 A	40 A
DIMENSIONS, W x H x L, inches (mm)	11.33 X 1.85 X 15 (288 X 47 X 381)	11.33 X 1.85 X 19 (288 X 47 X 482)	11.33 X 1.85 X 21 (288 X 47 X 532)	11.33 X 1.85 X 12 (288 X 47 X 305)
NET WEIGHT, LBS (KG)	9.04(4.1)	11.46(5.2)	13.01(5.9)	7.36(3.34)

specs
Features and Specifications



LA-499/799/1999/3199/4299
Features and Controls

1. **Speaker Terminals**
These terminals are 14K Gold plated for high conductivity and minimum impedance loss. The terminals face upwards for easy wiring in tight situations.
2. **Fuse**
Protects the amplifier as well as the automobile electrical system from short circuit conditions.
3. **Power Supply Terminals**
4. **Input Level Control**
Use this control to match the output of the head unit to the amplifier. If distortion is present, reduce the setting of this control.
5. **Crossover Mode Switch**
In a full range system, set this to FULL. If the amp is being used to power a crossover system, set to either HPF or LPF as needed.
6. **Bass Boost Control**
Allows you to increase the bass signal level sent to the speakers
7. **Low Pass Control**
Permits you to adjust the crossover frequency from 35 Hz to 400 Hz to suit the subwoofers
8. **High Pass Control**
Permits you to adjust the crossover frequency from 80 Hz to 2.5 kHz to suit the tweeters
9. **High Level Input (Low Impedance)**
Use these if your car stereo does not have RCA output jacks: connect the speaker output from the head unit to these inputs
10. **Low Level Input (High Impedance)**
This unit is provided with gold-plated RCA input jacks. Using RCA-RCA type patch cords, connect these inputs to the RCA outputs from your head unit.
11. **Power LED Indicator**
This LED is illuminated when the REMOTE ON system is turned on.
12. **Protection LED Indicator**
The protection circuitry in the amp will disable it if it senses an input overload, speaker short circuit, or thermal overload conditions. Should this occur, the PROTECT LED will be illuminated. At that time, it is important that you check to determine what has caused the protection circuitry to become activated.
If the amp shut off because of a thermal overload, allow it to cool down before attempting to restart.
If the shutdown occured because of an input overload, or speaker short circuit, be sure to correct these conditions before attempting to restart the amp.
To reset the amp, turn the REMOTE power off and on again.
13. **Remote Bass Boost**
Plug in the Remote Bass Boost Control wire in here.



LA-1099 Features and Controls

1. **Speaker Terminals**
These terminals are 14K Gold plated for high conductivity and minimum impedance loss. The terminals face upwards for easy wiring in tight situations.

2. **Fuse**
Protects the amplifier as well as the automobile electrical system from short circuit conditions.

3. **Power Supply Terminals**

4. **Input Level Control**
Use this control to match the output of the head unit to the amplifier. If distortion is present, reduce the setting of this control.

5. **Crossover Mode Switch**
In a full range system, set this to FULL. If the amp is being used to power a crossover system, set to either HPF or LPF as needed.

6. **Bass Boost Control**
Allows you to increase the bass signal level sent to the speakers

7. **Low Pass Control**
Permits you to adjust the crossover frequency from 35 Hz to 400 Hz to suit the subwoofers

8. **High Pass Control**
Permits you to adjust the crossover frequency from 80 Hz to 2.5 kHz to suit the tweeters

9. **High Level Input (Low Impedance)**
Use these if your car stereo does not have RCA output jacks: connect the speaker output from the head unit to these inputs

10. **Low Level Input (High Impedance)**
This unit is provided with gold-plated RCA input jacks. Using RCA-RCA type patch cords, connect these inputs to the RCA outputs from your head unit.

11. **Power LED Indicator**
This LED is illuminated when the REMOTE ON system is turned on.

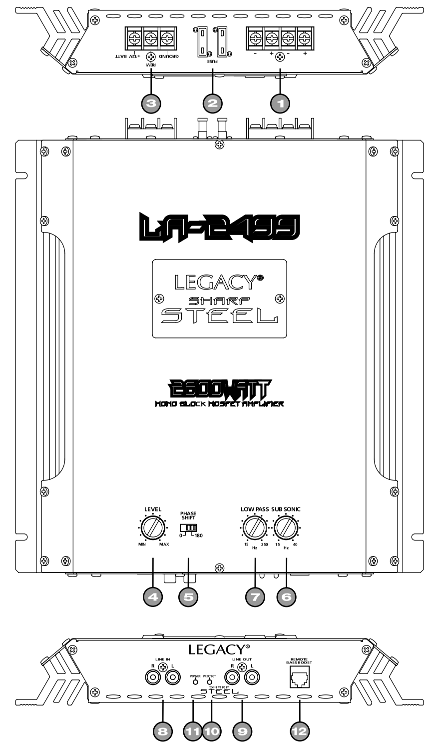
12. **Protection LED Indicator**
The protection circuitry in the amp will disable it if it senses an input overload, speaker short circuit, or thermal overload conditions. Should this occur, the PROTECT LED will be illuminated. At that time, it is important that you check to determine what has caused the protection circuitry to become activated.

    If the amp shut off because of a thermal overload, allow it to cool down before attempting to restart.

    If the shutdown occured because of an input overload, or speaker short circuit, be sure to correct these conditions before attempting to restart the amp.

    To reset the amp, turn the REMOTE power off and on again.

13. **Remote Bass Boost**
Plug in the Remote Bass Boost Control wire in here.



LA-2499 Features and Controls

1. **Speaker Terminals**
These terminals are 14K Gold plated for high conductivity and minimum impedance loss. The terminals face upwards for easy wiring in tight situations.

2. **Fuse**
Protects the amplifier as well as the automobile electrical system from short circuit conditions.

3. **Power Supply Terminals**

4. **Input Level Control**
Use this control to match the output of the head unit to the amplifier. If distortion is present, reduce the setting of this control.

5. **Phase Shift Switch**
Allows you to change the phase of your subwoofer from 0 degree to 180 degrees to help compensate from timing difference between drivers.

6. **High Pass Subsonic Filter**
Adjustable from 15Hz to 40Hz with a slope of 24dB per octave.This allows for the attenuation of frequencies that are mostly inaudible and cause unnecessary strain on the amplifier.

7. **Crossover Low Pass Filter**
Adjustable from 20Hz to 250Hz with a slope of 24dB per octave.This allows for the adjustment of the upper point of the frequency bandwidth and the respective subwoofer.

8. **Low Level Input (High Impedance)**
This unit is provided with gold-plated RCA input jacks. Using RCA-RCA type patch cords, connect these inputs to the RCA outputs from your head unit.

9. **Low Level Output (High Impedance)**
This unit is provided with gold-plated RCA Output jacks. Using RCA-RCA type patch cords, connect these Outputs to the RCA Inputs for your anyther amplifier.

10. **Protection LED Indicator**
The protection circuitry in the amp will disable it if it senses an input overload, speaker short circuit, or thermal overload conditions. Should this occur, the PROTECT LED will be illuminated. At that time, it is important that you check to determine what has caused the protection circuitry to become activated.

    If the amp shut off because of a thermal overload, allow it to cool down before attempting to restart.

    If the shutdown occured because of an input overload, or speaker short circuit, be sure to correct these conditions before attempting to restart the amp.

    To reset the amp, turn the REMOTE power off and on again.

11. **Power LED Indicator**
This LED is illuminated when the REMOTE ON system is turned on.

12. **Remote Bass Boost**
Plug in the Remote Bass Boost Control wire in here.

Electrical Wiring and Installation

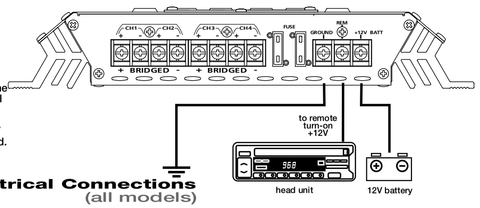
Making Power Connections

1. Connect the +12V terminal directly to the car battery (+) terminal.

2. Connect the GROUND terminal directly to the car battery (-) terminal OR to a good clean, paint-free chassis ground point.

3. To ensure a good ground, and to prevent "motor-boating" noise in the system, make an additional connection from the car battery (-) terminal to the chassis of the stereo unit, using 12 gauge minimum wire.

4. Connect the REMOTE terminal to an external switch for positive 12V turnon-off. This may be connected to the head unit power antenna lead.



Electrical Connections
(all models)

Installation Precautions

This amplifier comes complete with all mounting harware required. Please remember that this is a high-power unit, which generates considerable electrical energy and heat. Therefore, be sure to install the unit in a place with sufficient airflow, a minimum of dust, and no moisture. Allow enough space around the cooling fins to permit reasonable airflow and cooling.

• Before you drill or cut any holes, investigate your car's layout very carefully. Take care when you work near the gas tank, fuel lines, hydraulic line and electrical wiring.

• Do not operate the amplifier when it is unmounted. Attach all audio system components securely within the automobile to prevent damage, especially in an accident.

• Do not mount this amplifier so that the wire connections are unprotected or in a pinched condition, or likely to be damaged by nearby objects. Be sure to select a location inside your vehicle which has adequate ventilation.

• Before making or breaking power connections in your system, disconnect the vehicle battery. Confirm that your head unit or other equipment is turned off while connecting the input jacks and speaker terminals.

• If you need to replace the power fuse, only replace it with a fuse identical to that supplied with the system. Using a fuse of a different type or rating may result in damage to your system which isn't covered by the manufacturer's warranty.

Setting Up and Turning On Your New Amplifier

After all electrical connections have been made, and physical installation is complete, turn on your stereo and listen for the amplifier to turn on. If there are any unusual noises from the speakers, turn the stereo off and recheck ALL wiring.

Assuming the amplifier turn on normally, you may have to adjust the LEVEL control(s) to match the output levels from your head unit. Follow these steps:

1. Set the volume control on your head unit to about the 2/3 position.

2. Adjust the amplifier LEVEL control(s) to an average listening position.

3. Turn the head unit volume all the way down, and listen for background noise.

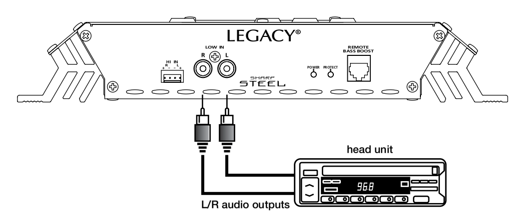
4. Start your vehicle, and again, listen for background noise.

5. By fine tuning the LEVEL control(s), you can reduce background and engine noise, if present.

These adjustments should only be made once. After that, use the head unit volume control to adjust the system volume, not the LEVEL control(s).

CAUTION: Never turn the LEVEL control(s) up any higher than you need to get clear sound at 2/3 volume on the head unit.

Low Level Stereo Input Connection



High Level Stereo Input Connection

PLEASE NOTE! If using high level inputs, do not use the low level RCA inputs at the same time!

